

**CALIFORNIA
CAULERPA TAXIFOLIA
SURVEILLANCE AND ERADICATION PROGRAM**

REQUEST FOR PROPOSALS

REQUESTED BY:

Agua Hedionda Lagoon Foundation

IN COOPERATION WITH:

Southern California *Caulerpa* Action Team

RELEASED:

February 28, 2003

REQUEST FOR PROPOSALS TO CONDUCT SURVEYS AND TREATMENTS TO ERADICATE *Caulerpa taxifolia*

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I. INTRODUCTION

Agua Hedionda Lagoon Foundation (AHLF) is seeking a contractor (Contractor) to conduct biological field surveys and treatments to eradicate the invasive non-native marine alga, *Caulerpa taxifolia*. Funding for this work has been provided by the California State Coastal Conservancy (Conservancy). Additional funding may be provided by other sources. It is estimated that funding initially available for work described in this RFP will be approximately \$1,000,000. However, AHLF reserves the right to increase or decrease the amount of funding available.

This RFP is not intended to provide prospective contractors with background information. Prospective contractors are expected to understand the threat posed by *Caulerpa taxifolia*, have a working knowledge of *C. taxifolia* infestations and control efforts worldwide, and be familiar with efforts to eradicate known infestations and prevent new infestations of *C. taxifolia* in California. The Conservancy has adopted and the California Coastal Commission has ratified an Enhancement Plan describing the program to respond to the threat posed by *C. taxifolia*.

Prospective contractors may obtain pertinent information from the following web sites:

<http://www.swrcb.ca.gov/rwqcb9/programs/caulerpa/caulerpa.html>

<http://www.sccat.net>

<http://www.caulerpa.cjb.net>

Useful information may also be available from other sources. Prospective contractors must not seek to obtain information by contacting organizations or individuals participating in the Southern California *Caulerpa* Action Team (SCCAT) (see list below). Failure to comply with this condition may result in proposal rejection, at the discretion of AHLF.

The following organizations participate in SCCAT:

National Marine Fisheries Service
US Department of Agriculture
US Fish and Wildlife Service

California Department of Fish and Game
California State Coastal Conservancy
California Coastal Commission
University of California
State Water Resources Control Board
Los Angeles Regional Water Quality Control Board
Santa Ana Regional Water Quality Control Board
San Diego Regional Water Quality Control Board
City of Carlsbad
Agua Hedionda Lagoon Foundation
California Coastal Coalition (CalCoast)
Cabrillo Power I, LLC
Merkel & Associates
Hofman Planning
Marine Research and Educational Product (M-REP)

Questions related to this RFP may be submitted only to Mr. Craig Elliott (AHLF) and only via Email (celliot@alumni.caltech.edu). AHLF may choose, at its discretion, to respond or not respond to any question received. Where responses are provided, they will be provided via Email to all known prospective contractors.

II. PROPOSAL SUBMITTAL REQUIREMENTS

Proposals must address all the tasks identified in Section VI of this RFP and must include the contents and meet the submittal requirements set forth below. After review of the proposals received, AHLF may, at its discretion, request one or more prospective contractors to provide additional information and/or documents in support of their proposal and/or conduct interviews with one or more prospective contractors.

A. Proposal Contents

Proposals submitted in response to this RFP must include the following elements:

1. Description of the prospective contractor's project team, including the two individuals the prospective contractor intends to serve as its representatives to SCCAT (see Section VI, Task 1.A) and any proposed subcontractors
NOTE: Both of the individuals the prospective contractor intends to serve as its representatives to SCCAT, but no more than four individuals, shall represent the prospective contractor if an interview with the prospective contractor is conducted as part of the ranking process.
2. Description of the qualifications of the prospective contractor (and, in particular, the qualifications of the two individuals the prospective contractor intends to serve as its representatives to SCCAT) and any proposed subcontractors with respect to Ranking Criteria #1-10 in Section III
3. Contact information (including names, phone numbers, and Email addresses of the two individuals the prospective contractor intends to serve as its representatives to SCCAT)
4. Description of how the prospective contractor proposes to carry out the tasks described in Section VI of this RFP

5. Description of data to be collected and proposed methods for collecting, analyzing, managing (including QA/QC), summarizing, presenting, and reporting data.
6. Proposed project budget, based on the tasks specified in Section VI. Proposals shall specify the estimated annual cost for each task and subtask and the basis for those cost estimates, including hourly billing rates and estimated hours for each personnel classification to be assigned, as well as all other costs and expenses, including billing rates (e.g., for mileage, equipment, supplies, etc.), where appropriate. Cost estimates must cover all the work involved in each task and sub-task.
7. Identification of any and all clients (including SCCAT participants) and projects of the prospective contractor (and/or any proposed subcontractors) that are related to Agua Hedionda Lagoon or Huntington Harbour.
8. Disclosure of any and all clients (including SCCAT participants) and projects of the prospective contractor (and/or any proposed subcontractors) that could be perceived to pose a conflict of interest with respect to work described in this RFP.

B. Proposal Submittal

Prospective contractors shall submit copies of their proposal as described below.

Proposals shall be no longer than 20 pages and shall have a font size of 10 point or larger.

Prospective contractors shall send or deliver three hard copies of their proposal and an additional copy on a disc in PDF format to the following address:

**Agua Hedionda Lagoon Foundation
c/o San Diego Regional Water Quality Control Board
Attention: Bruce Posthumus
9174 Sky Park Court, Suite 100
San Diego, California 92123-4340**

The three hard copies of the proposal and the disc copy in PDF format must be received at this address no later than 5:00 PM, on March 21, 2003. Late proposals will not be accepted.

III. RANKING CRITERIA

Prospective contractors will be ranked using the following criteria:

1. Understanding of the threat posed by *Caulerpa taxifolia*
2. Working knowledge of *C. taxifolia* infestations and control efforts worldwide
3. Familiarity with efforts to eradicate known infestations and prevent new infestations of *C. taxifolia* in California, including familiarity with related issues, stakeholders (including SCCAT participants), and legal and regulatory framework
4. Experience in eradication, control, and/or prevention of infestations of invasive non-native species, particularly invasive non-native aquatic plants, particularly *C. taxifolia*
5. Knowledge of southern California coastal marine ecosystems
6. Experience working in southern California coastal marine environments
7. Experience working with diverse stakeholder groups and resource and regulatory agencies

8. Ability to obtain, train, and retain divers to conduct effective surveys and treatments
9. Ability to evaluate effectiveness of *C. taxifolia* eradication efforts, including effectiveness of surveys and treatments
10. Readiness to initiate work promptly and ability to complete work in a timely and economical manner
11. Cost

IV. CONTRACTING

Contract negotiations will begin with the most highly ranked prospective contractor once the ranking process is complete. AHLF may, at its discretion and at any time, initiate negotiations with the next most highly ranked prospective contractor if AHLF determines that satisfactory progress is not being made toward execution of a contract with the most highly ranked prospective contractor. AHLF may, at its discretion and at any time, initiate negotiations with other prospective contractors if AHLF determines that satisfactory progress is not made toward execution of a contract with the next most highly ranked prospective contractor. AHLF reserves the right to reject any or all proposals.

It is anticipated that the contract will have a duration of one to three years. The duration of the contract will be subject to extension, at the discretion of AHLF.

V. SCHEDULE

Contractor will be expected to initiate substantive work on tasks specified in the contract no later than two weeks after the contract is executed. The anticipated schedule is outlined below. The actual schedule may differ from this anticipated schedule.

Interviews of prospective contractors ¹	March 31 – April 4, 2003
Execution of contract	April 25, 2003
Initiation of contract work	May 9, 2003

VI. PROJECT DESCRIPTION

Contractor shall carry out the tasks described below.

NOTE: The notes following the descriptions of several tasks and sub-tasks specify assumptions to assist prospective contractors in estimating costs (see Section II.A.6 above). These notes are not provided for all tasks or subtasks. These notes do not necessarily address all the work involved in a particular task or sub-task. The actual work required of Contractor may differ from the assumptions specified in these notes.

Task 1: Team Coordination and Planning

This task encompasses multiple areas of coordination including:

A. SCCAT meeting preparation, presentations, and participation

SCCAT meetings are generally full-day meetings, held approximately every six weeks, to discuss ongoing eradication and surveillance, as well as current legislative,

¹ Optional; may be conducted with one or more prospective contractors at the discretion of AHLF

research, funding, and outreach efforts relating to the control and prevention of *C. taxifolia* infestations. At these meetings, SCCAT provides direction to Contractor regarding ongoing and future courses of action. For each meeting, Contractor shall prepare and present an update on the results of surveillance efforts and any treatments that may have been done. Contractor is expected to be a partner in SCCAT and an active participant in and a significant contributor to SCCAT and SCCAT meetings, including committee meetings. Contractor shall identify two individuals who will be its representatives at SCCAT meetings, subject to the approval of the Steering Committee of SCCAT. At least one representative of Contractor who is acceptable to the Steering Committee of SCCAT shall attend the entirety of every SCCAT meeting. At least one representative of Contractor who is acceptable to the Steering Committee of SCCAT shall attend meetings of the Steering Committee of SCCAT and other SCCAT committees, as directed by the Steering Committee of SCCAT.

NOTE: For purposes of estimating costs, assume:

- *Eight full-day SCCAT meetings per year; all in San Diego County*
- *Meetings of the Steering Committee of SCCAT will be part of the SCCAT meetings*
- *Four full day SCCAT Technical Committee meetings per year; all at UC Davis*

B. Coordination with the Steering Committee of SCCAT

Contractor shall coordinate with members of the Steering Committee of SCCAT through phone calls, Email, and meetings, as needed. Topics may include, but are not limited to, specific guidance on issues that arise between SCCAT meetings, such as response to new or unusual *C. taxifolia* findings, community relations, etc. If /when *C. taxifolia* is found a substantial distance away from previously identified patches, Contractor shall so notify the Steering Committee of SCCAT via Email as soon as possible and no later than 24 hours after the *C. taxifolia* is found.

C. Field crew meetings and coordination for purposes of directing activities

Contractor shall conduct regular internal coordination meetings with its field teams to ensure appropriate distribution of effort and to ensure that field information is effectively collected for transmittal to SCCAT.

D. Coordination with users of Agua Hedionda Lagoon and other eradication sites

Contractor shall provide all necessary support for efforts to coordinate eradication activities with activities of users of Agua Hedionda Lagoon, following guidelines set forth in the “Interim Management Plan to Facilitate the Agua Hedionda Lagoon *Caulerpa taxifolia* Eradication Program” (IMP). This task includes maintenance of at least four informational signs posted at various points around the lagoon, weekly posting of work schedules at each of these signs, maintenance of a recorded message on a dedicated phone line providing daily updates on the location of the working eradication team, participation in public workshops with the lagoon users, communication and coordination with lagoon users and City of Carlsbad staff, and attendance at and preparation of presentations for Carlsbad City Council meetings as necessary to fulfill the reporting needs of the IMP. Contractor shall also be available

to provide non-law enforcement support to enforcement agencies such as the Carlsbad Police Department and CDFG, which may include preparation of maps or presentation materials, field meetings, and boat and diver support associated with signage or placement of navigational buoys.

Contractor shall also coordinate with users of Huntington Harbour and/or other as yet unidentified *C. taxifolia* infestation sites, as directed by the Steering Committee of SCCAT. Because each infestation site poses a unique combination of circumstances, different coordination measures may be used at different sites, after consultation with and as directed by the Steering Committee of SCCAT.

NOTE: For purposes of estimating costs, assume twelve three-hour meetings per year; nine in San Diego County, three in Orange County.

E. Public outreach and meeting support

Contractor shall provide outreach and support for outreach, as directed by the Steering Committee of SCCAT. This task includes presentations to the public, decision makers, target outreach groups; preparation of maps and graphics for SCCAT; participation in SCCAT Outreach Committee meetings; information gathering and compilation of materials for scientific review panels and conferences; and other tasks as directed by the Steering Committee of SCCAT. Contractor shall also maintain an existing public outreach website that provides up-to-date maps of surveillance and eradication efforts, and allows on-line reporting of sightings and non-sightings.

NOTE: For purposes of estimating costs, assume twelve three-hour meetings per year; nine in San Diego County, three in Orange County.

F. Permits, licenses, and reporting requirements

Contractor shall obtain, maintain, and comply with all permits, licenses, and reporting requirements necessary to carry out the work described in this RFP. These include but may not be limited to: 1) City of Carlsbad permits for all vessels used by Contractor in Agua Hedionda Lagoon; 2) *C. taxifolia* research and possession permit, and; 3) California State Pesticide Applicator's License for application of chlorine.

Task 2: Survey and Mapping

This task consists of field surveillance for *C. taxifolia* and mapping of *C. taxifolia* and the survey effort. The task requires careful attention to field safety, coordination and communication with users in the area, and effectiveness of surveys. Different survey techniques may be required in response to specific survey needs. Survey methods shall be modified as directed by the Steering Committee of SCCAT.

A. Field surveys

Contractor shall conduct quarterly surveys for *C. taxifolia* in Agua Hedionda Lagoon and Huntington Harbour, unless directed otherwise by the Steering Committee of SCCAT. Survey schedules may need to be adjusted due to various environmental factors (such as poor visibility or closures due to contaminated water) or interference by vessel traffic.

Contractor shall conduct surveys so as to ensure systematic and effective searches of the survey area and so as to enable collection of all necessary data. Contractor shall conduct surveys using the methodology and procedures outlined in the following two paragraphs, unless directed otherwise by the Steering Committee of SCCAT.

Surveys in Agua Hedionda Lagoon shall be conducted with SCUBA divers swimming lines spaced no more than 1-m apart. The present approach for conducting surveys in Agua Hedionda Lagoon includes positioning transect lines (weighted rope) along the bottom of the survey area, to aid in guiding divers. With the aid of a real-time differential GPS, parallel transects are placed 10 m (32.8 ft) apart. Five divers first swim one side and then the other side of each transect line, while maintaining diver-to-diver spacing of 1-m (3.28 ft) using a 5-m (16.4 ft) length of rope. Contractor shall place lines so as to ensure complete coverage of all three basins of Agua Hedionda Lagoon (approximately 256 acres). Approximately 643 miles of diver transect lines must be covered at Agua Hedionda Lagoon during each survey.

Surveys in Huntington Harbour shall also be conducted with SCUBA divers swimming lines spaced no more than 1-m apart. The infestation area in Huntington Harbour is approximately 8 acres.

Contractor shall conduct additional surveys or limited (reduced coverage area) surveys in Agua Hedionda Lagoon and/or Huntington Harbour, as directed by the Steering Committee of SCCAT.

Contractor shall also conduct surveys at other locations, as directed by the Steering Committee of SCCAT. Survey methods appropriate to each location shall be used, after consultation with and as directed by the Steering Committee of SCCAT.

NOTE: For purposes of estimating costs, assume four complete surveys of Agua Hedionda Lagoon per year and four complete surveys of the C. taxifolia infestation area at Huntington Harbour per year.

B. Survey vessel markings and safety

To effectively warn users of where eradication activities are taking place, all vessels used by Contractor in eradication activities shall be equipped with and use flashing lights and prominent dive flags. When survey work requires zone closures, Contractor shall daily deploy and retrieve large conspicuous floats to indicate relevant zone boundaries. Contractor personnel on vessels must be prepared to and be able to

communicate with lagoon users about the current zone closures and restrictions on use (e.g., wake heights, fishing, anchoring, access, etc.) as necessary.

C. Documentation of *C. taxifolia* found

Contractor shall document the location and amount of all *C. taxifolia* found, in accordance with directives of the Steering Committee of SCCAT. This may include observations, measurements, photographs, underwater video footage, GPS recording, and GIS mapping.

*NOTE: For purposes of estimating costs, assume finding one 10-square meter patch and one 1-square meter patch of *C. taxifolia* per year in Agua Hedionda Lagoon and one 0.5-square meter patch and one 0.1-square meter patch of *C. taxifolia* per year in Huntington Harbour.*

D. Mapping

Contractor shall map and document survey efforts with ArcView™ mapping software. Documentation shall include a database of way points used in determining transect lines, a mapped representation of all transect lines surveyed, the position of any found *C. taxifolia*, and the position of tarps used in the treatment of found *C. taxifolia*. Generally, mapping of *C. taxifolia* and tarps is achieved by the placement of buoys. Marker buoys are then mapped by use of dGPS and ArcView™.

*NOTE: For purposes of estimating costs, assume finding one 10-square meter patch and one 1-square meter patch of *C. taxifolia* per year in Agua Hedionda Lagoon and one 0.5-square meter patch and one 0.1-square meter patch of *C. taxifolia* per year in Huntington Harbour.*

E. Survey Procedure Quality Assurance / Quality Control

Contractor shall, in coordination with the Steering Committee of SCCAT, develop and implement protocols for ensuring that survey procedures produce satisfactory results.

Task 3: Treatment

Treatment includes all measures necessary to contain and kill *C. taxifolia* where it is found. Treatment includes implementation of temporary closures around infested areas to accommodate treatment, covering or removing patches, application of chlorine within treatment areas, and subsequent inspection and maintenance of treatment sites to ensure containment and adequate treatment dosages. Any found *C. taxifolia* shall be treated within 48 hours of when it is found except where large areas of infestation are found or large numbers of patches are found, in which cases treatment may extend for a longer period of time. In cases where something unusual arises that may require alternative treatment procedures, Contractor shall consult with the Steering Committee of SCCAT, as soon as feasible, but no later than 24 hours after *C. taxifolia* is found.

Specific measures to be conducted under this task include, but are not limited to:

- A. Installation, maintenance, and removal of surface safety monuments or closures associated with treatment actions;

- B. Construction of any necessary treatment control grids and monuments;
- C. Completion of treatment area specific searches that occur prior to treatment;
- D. All work associated with treating *C. taxifolia* including preparation of on-site materials, placing containment tarps, and chlorination;
- E. All field documentation of treatment actions;
- F. Treatment efficacy inspections and sampling;
- G. Any secondary treatment or re-treatment required;
- H. All treatment area maintenance including any off-gassing, tarp repairs, and reinforcement;

The primary method of treatment in use at the known infestation sites includes covering each identified patch with an impermeable 20mil black PVC tarp. Prior to placement of the tarp, 1-inch diameter solid chlorine tablets are placed in the area to be tarped, evenly distributed at a density of 10 tablets per square foot. After placement of the chlorine tablets, the tarp is secured by positioning sandbags along the entire perimeter of the tarp and in a less dense array across the top of the tarp to minimize ballooning and to further secure the tarp. Alternative treatments, including injection of liquid chlorine and hand picking, may also be used where specific conditions warrant, as directed by the Steering Committee of SCCAT. Tarps are left in place to discourage re-growth of any viable material that may remain in the sediment. Tarps are mapped with the same methods used to map *C. taxifolia*.

This task also includes treatment procedure quality assurance / quality control. Contractor shall, in coordination with the Steering Committee of SCCAT, develop and implement protocols for ensuring that treatment procedures produce satisfactory results.

Treatment techniques may be adjusted, as required, in response to specific treatment needs. Treatment methods shall be modified, as directed by the Steering Committee of SCCAT.

NOTE: For purposes of estimating costs, assume finding one 10-square meter patch and one 1-square meter patch of C. taxifolia per year in Agua Hedionda Lagoon and one 0.5-square meter patch and one 0.1-square meter patch of C. taxifolia per year in Huntington Harbour.

Task 4: Eradication Program Research and Development

Since techniques for finding and treating *C. taxifolia* are new, it is important to continue to explore other survey and treatment techniques, as has occurred since inception of the Southern California *C. taxifolia* eradication program. Contractor shall continue testing new tools, examining efficacy of treatment and survey techniques, evaluating different techniques, and exploring widely varying approaches to differing aspects of the eradication effort and shall provide resulting information and recommendations to the Steering Committee of SCCAT. As directed by the Steering Committee of SCCAT, Contractor shall pursue promising methods through more rigorous testing. Research and development shall be coordinated with the Technical Advisory Committee of SCCAT under the direction of the Steering Committee of SCCAT. This task includes

maintenance of *C. taxifolia* cultures obtained from field collection and coordination with permitted scientists wishing to obtain *C. taxifolia* for research.

Task 5: Data Collection, Management, and Analysis

Contractor shall collect, manage, and analyze data, including photographs and videotape, as necessary to characterize the results and effects of survey and treatment work. During both survey and treatment work, Contractor shall continuously collect and manage such data, including data necessary to assess the success of *C. taxifolia* treatments as well as other effects of such treatments. This may include data that may be needed for adaptive management purposes or for future environmental impact review, as well as for preparation of maps and tables for planning, presentation, and reporting purposes. This task includes data verification, validation, and quality control / quality assurance. This task also includes backing up of data. This task also includes preparation of various data analyses and summary outputs to support SCCAT communication needs. This includes compiling data and assembling tables, graphs, graphics, photos, and summary material for the quarterly and annual reports described under Task 6 (below), as well as for research and presentations to be made by others, as directed by the Steering Committee of SCCAT. Raw data from notebooks and daily logs of observations and other such records shall be made available upon request of the Steering Committee of SCCAT.

Task 6: Reporting

Contractor shall provide written reports as described below, as well as any other supplemental reports and additional reports specified by the Steering Committee of SCCAT. The format of and the information included in these reports shall be subject to approval by the Steering Committee of SCCAT.

- Twice-monthly status reports – Each month, Contractor shall prepare and distribute via Email to the Steering Committee of SCCAT (and others specified by the Steering Committee of SCCAT) two brief reports summarizing field work completed and planned. One report shall cover the first fifteen days of the month; the other report shall cover the remainder of the month. These reports shall be provided within five days of the end of the reporting period. These reports are intended to keep the Steering Committee of SCCAT up-to-date on the latest developments in the field, including identification of the areas surveyed and the amount *C. taxifolia* found. Reports shall include a brief summary of findings, issues, and planned activities in the coming weeks. The reports need not include detailed data analyses or graphic support. However, either or both may be included if deemed necessary to communicate information clearly.
- Quarterly Program Reports – Contractor shall prepare quarterly status reports summarizing all surveillance and eradication work in the reporting period, including such work conducted pursuant to other contracts. These reports shall include data analyses and presentation of results in the form of tables, figures, and maps. These reports shall include a description of any testing of new methods and/or any research undertaken and any preliminary results. These reports will also summarize any changes in protocols and any recommendations for future changes. These reports

shall also summarize expenditures during the reporting period, and anticipated expenditures for the next quarterly reporting period. Draft versions of these reports shall be prepared for review and comment by the Steering Committee of SCCAT. Final versions of these reports shall be prepared as directed by the Steering Committee of SCCAT. The final version of these reports shall be produced in both hard-copy and electronic format, suitable for posting on an internet web-site.

- Annual Program Report – Contractor shall prepare annual reports, and review and update the plan (a.k.a, Rapid Response Plan) for response to *C. taxifolia* infestations in California. (This plan currently consists of the “Revised Eradication Plan for *Caulerpa taxifolia* in California: Surveillance, Eradication, and Current Status” [November 2001]). The annual reports shall incorporate information presented in the quarterly reports and shall also present a comprehensive status report on the program efforts to date. The annual reports shall present information on all eradication, outreach, surveillance, and research efforts conducted over the preceding year, provide summary information on the efforts, and provide a summary of program resources expended on each of the efforts undertaken. The annual program report shall include a review and update of the Rapid Response Plan. Draft versions of these reports shall be prepared for review and comment by the Steering Committee of SCCAT. Final versions of these reports shall be prepared as directed by the Steering Committee of SCCAT. The final version of these reports shall be produced in both hard-copy and electronic format, suitable for posting on an internet web-site.

Task 7: Other Duties as Directed

Contractor shall carry out other duties as directed by the Steering Committee of SCCAT. This may include work at locations and sites where *C. taxifolia* has yet to be reported. This task is intended to provide the Steering Committee of SCCAT, acting as the manager of the *C. taxifolia* surveillance and eradication program, with the flexibility necessary to respond promptly to presently unforeseen circumstances. Since the first infestation of *C. taxifolia* was found in California and SCCAT was convened, the response program has continued to develop and evolve. It has included considerable applied research, coordination with experts elsewhere in the world, and an adaptive approach to implementation. Based on past experience, there may be numerous occasions when unforeseen needs arise which would require Contractor to respond to directives of the Steering Committee of SCCAT in order to facilitate the eradication of *C. taxifolia*.

NOTE: For purposes of estimating costs, assume 10% of the total annual project budget will be devoted to this task.

Task 8: Administration

This task covers work conducted in managing contractual and accounting obligations. This includes providing a comprehensive billing summary, with out-of-money date projections, for review at each SCCAT meeting.

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